

What is the schedule for this work and what are the main challenges?

- Key challenges with this schedule include:
- Getting the right team in place quickly
 - Getting information from projects and agencies to independent review team.
 - Cooperation between agencies and industry review team
 - Compiling the work in time for a November 2004 vote.

RTID Cost Estimate Review - Planned Schedule

	Dec-03	Jan-04	Feb-04	Mar-04	May-04	Jun-04	Jul-04	Aug-04	Sept-04	Oct-04	Nov-04	Dec-04
Initiate work - Task Managers, Consultant, National Experts								Advance work, early start, alternate meetings				
Survey “best estimating practices”, WSDOT CEVP™ method + existing cost estimates, RTID Projects, determine which projects cost estimates need CEVP or re-estimates												
CEVP™ and/or estimates performed sufficient for the purposes of this work												
Initial findings, conclusions and recommendations												
Complete CEVPs, cost estimate work, draft and final reports												

Who is RTID?

Regional Transportation Investment District

Planning Committee

- Council members of King, Pierce and Snohomish Counties
- Secretary of Transportation (non-voting)

Executive Board:

- **Snohomish County:**
Gary Nelson (Chair), Dave Gossett
- **Pierce County:**
Calvin Goings, Shawn Bunney
- **King County:** Dwight Pelz (Vice Chair), Rob McKenna, Cynthia Sullivan

Voters:

- Voter approval for projects and funding

RTID Cost Estimate Review

Why is there such a problem accurately estimating the costs of large projects?

Large infrastructure projects that take a significant amount of time to plan, fund, and construct are subject to many variables (risks) over the life of the project, such as changes in regulatory requirements, political requirements, design requirements, financing and market requirements. Often times, these factors are understated or ignored to gain the initial approval of a project or, if they are identified, they are significantly undervalued using conventional cost estimating practices. In addition, project management approaches that fail to actively monitor and act on these risks over the life of the project contribute significantly to project cost overruns.

The public usually reads the headlines about the projects that go over budget or have other significant problems, of which there are many examples, including: Denmark’s Great Belt Link, London’s Jubilee Line extension, Boston’s Central Artery, and the Channel Tunnel. Locally, the problem has been illustrated by the overruns for Sound Transit’s LINK Light Rail project.

However, not all large-infrastructure project estimates result in bad results and press. For instance, Boston’s Southwest Corridor Transit Project, the Boston Harbor Clean-up, Salt Lake City’s Interstate 15 project, and the Washington Metro project were all delivered on time and on budget. Locally, the 7-mile completion of Interstate 90 in the 1990’s was delivered on time and on budget.

Thus, using conventional cost estimating practices for large infrastructure projects has a mixed track record.

So, what makes the difference between projects with cost growth problems and those that are delivered within budget and schedule?

It comes down to the capability and dedication of the people involved – good management processes and the ability to actively identify and manage risks over the life of the project. Included in those good processes is a risk-based estimating approach coupled with independent peer review of the project cost estimates and risk management.

How will the public know that the RTID projects can be built for the estimated costs?

First, the RTID includes strict Accountability Requirements.

- Voters approve specific projects and funding levels.
 - Projects must be built within 20% of budget cost.
- Specific performance criteria must be considered in choosing projects
 - Report annually on how the District is operating.

Second, the Legislature appropriated \$5 million for WSDOT to build public confidence that the RTID project cost estimates are reasonable.

This RTID cost estimate review must be technically expert and results must be clear to citizens, legislators, public officials and the press. This includes review of cost estimates by a group of independent technical experts.

This details of this independent review are discussed inside.



Overview

Purpose: Conduct an independent review of RTID project cost estimates in order to maximize the use of RTID funds while ensuring that projects will not overrun estimates.

Who will be involved?

- RTID Board and Executive Director
- The owners of the RTID projects – State, Counties, Cities and Towns
- Independent Technical Experts
- Resource personnel working on the projects and in the Agencies, Counties, Cities and Towns.

What’s the schedule?

Initial Findings: December 2003 to June 2004

Draft Report: August 2004

Final Report and updated project cost estimates for all RTID projects: December 2004

How much will this cost?

\$5 million is authorized for the review, including expert panel, consultants and cost estimates for projects that need to be estimated or updated. (If the majority of the current estimates are found to be reasonable, then less will be spent).

What are the benefits?

- An independent review will increase confidence that the final estimates will be reasonable.
- Reasonable estimates will help ensure that projects will not overrun their budgets.
- The review will suggest areas of improvement in management of cost and particularly risk, to help ensure that projects will be managed so that they can be delivered within estimated cost ranges.
- Projects not previously evaluated by WSDOT’S CEVP™ or similar processes can be evaluated.
- Independent experts will review and comment on the WSDOT CEVP™ process, with recommendations for improvement.



What is a Sponsoring Agency?

A sponsoring agency is typically the owner-operator of a facility (road, highway, transit system) for which a specific improvement project has been proposed. In some rare cases, someone other than the owner-operator of the facility may be the sponsoring agency.

Sponsoring agencies for the RTID include the Washington State Department of Transportation, King County, Snohomish County, Pierce County, and other local jurisdictions and transit agencies.

How have candidate projects been identified?

Sponsoring agencies typically engage in short-term and long term transportation planning activities. These planning efforts blend land use and transportation goals, resulting in a defined set of transportation needs to accommodate forecasted employment and population growth.

Once the sponsoring agencies define their needs, a set of concept improvements is typically identified. These concept improvements often include a mix of strategies, such as demand management techniques (such as vanpools), transportation options (such as increased transit service), operating enhancements (such as traffic signal synchronization) and/or capital improvements.

Once the capital improvements have conceptual solutions developed, the sponsoring agency accomplishes detailed project planning, project design and environmental work.

How are the cost estimates developed?

Sponsoring agencies almost always develop project cost estimates at various stages of project development. In general, these estimates include percentages for “contingencies” -- the total of which depends on the level of project development. The estimates tend to become more reliable as the project progress through the project development process.

What Projects are Eligible?

- Add lane capacity to Highways of Statewide Significance.
- Repair or replace a seismically damaged structure
- Multimodal capital improvements
- Local Arterials

Independent CEVP™ (or similar) Cost Estimate Revised

Independent Assessment of Sponsoring Agency Cost Estimates

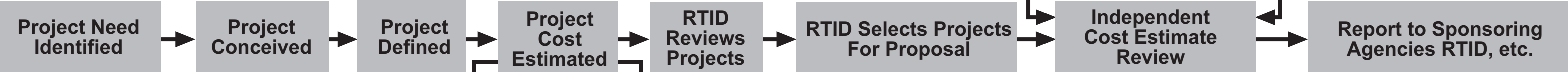
Independent Assessment of Sponsoring Agency (CEVP™)

Independent Cost Estimate Review

How will the results of this review be used?

Sponsoring agencies will utilize the information from the independent review to adjust project scopes, schedules, and/or budgets as indicated.

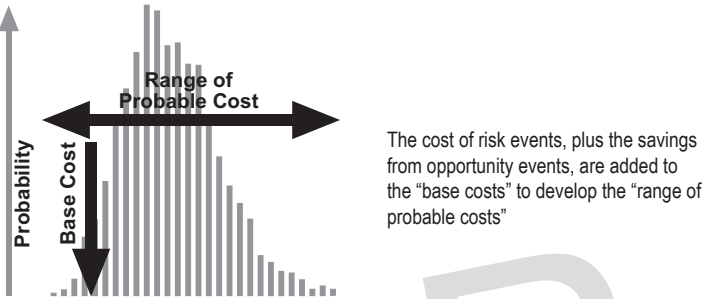
RTID will utilize the information to provide feedback to sponsoring agencies to prompt plan adjustments and to demonstrate the delivery of the final scope of projects to the public within established budgets.



Is a sponsoring agency’s cost estimate and evaluation by WSDOT’s CEVP™ the same as the independent cost estimate review?

No. However, the results of a sponsoring agencies CEVP™ cost estimate will be useful for the independent team rating the estimate especially the identification of high risk items that may significantly affect the projects scope, schedule and/or budget.

- In the beginning, there is a large potential range for “ultimate cost”
- The “ultimate cost” will depend on the outcome of many factors
- We can't predict exactly, but we can develop probable ranges of cost which include all relevant risk and opportunity events we can identify.



To help ensure reliability of the RTID project cost estimates before a public vote a comprehensive independent review was funded by the legislature. This independent review includes the following:

- Check the current state-of-the-art in cost estimating.
- Check recent developments in cost estimating using risk and opportunity
- Perform an independent assessment of the WSDOT CEVP™ methodology (used in the initial cost assessment of some RTID projects in 2002 and 2003).
- Check what estimates have been done on the RTID projects - and if they were sufficiently complete.
- Get updated or new cost estimates for the RTID projects - and evaluate using the WSDOT CEVP™ method (simplified for smaller projects).
- Check if adequate management actions have been taken on the RTID projects - including early risk management.
- Make recommendations for changes and improvements to the cost estimating and management processes.
- Provide a commentary on the regional and local program and project environment in terms of best management practices.
- Write a Report and present findings, conclusions and recommendations.

What are the first steps?

- Engage independent professionals to manage this work
- Engage an independent expert panel of Subject Matter Experts with knowledge about management of complex transportation projects as well as cost estimating, risk methodologies, design and construction.
- Engage a consultant firm for task management and administration, with relevant expertise in management of complex transportation projects, cost estimating and risk methodologies. The consultant firm will also assist with the provision of other specialty expertise, conduct studies, perform data gathering and other necessary tasks.
- Proceed to implement and complete the Tasks described above.

Who will be involved?

- RTID Board and Executive Director
- The owners of the RTID projects – State, Counties, Cities and Towns
- Independent Technical Experts
- Resource personnel working on the projects and in the Agencies, Counties, Cities and Towns.

Application of CEVP™ and Strategic Risk Management

CEVP™ has been applied to a set of projects in Washington State estimated at about US \$20 billion and also to many smaller projects through a simpler process.

The process includes explicit identification of high-cost and schedule risk events – leading to an ability to develop explicit risk management plans early in the project’s development, directly from CEVP™. Initial results have been favorable, with the first public bid falling within the estimated “range of probable cost”.

WSDOT and its CEVP™ process have been recognized Nationally in several studies.^{1,2}

¹ “Completing the ‘Big Dig’: Managing the Final Stages of Boston’s Central Artery/Tunnel Project” Committee for Review of Project Management Practices, National Research Council, 2003, February.

² “Best Practices and Guidelines for Project Cost Estimating”, National Cooperative Highway Research Program, A Synthesis of Highway Practice, Schexnayder C, Firoi, C & Weber, S., July 2003.